CLAIMS

1. Soft and flexible surgical soft tissue mesh comprising polyethylene yarns, characterized in that the polyethylene yarns have a tensile strength of more than 1.0 GPa and consist of a polyethylene with an relative viscosity of more than 5 dl/g.
2. Mesh according to claim 1 wherein the mesh is knitted.
3. Mesh according to claim 1 or claim 2, wherein the yarns are sheath and core yarns, having a weight ratio between the sheath and the core of below 3:1.
4. Mesh according to any of claims 1-3, wherein the yarn comprises a medical drug.
5. Method of producing a soft and flexible surgical soft tissue mesh comprising polyethylene yarns, characterized in that yarns are applied that comprise filaments made by:
   a) spinning at least one filament from a solution of polyethylene with a relative viscosity of more than 5 dl/g in a first solvent;
   b) cooling the filament obtained to form a solvent-containing gel filament;
   c) removing at least partly the solvent from the gel filament; and
   d) drawing the filament in at least one drawing step before, during or after removing solvent, to result in a tensile strength of more than 1.0 GPa.
6. Method according to claim 5, further comprising a step wherein the yarns are subjected to a heat treatment to form a modified yarn comprising a sheath and a core with a weight ratio between sheath and core of below 3:1.
7. Method according to claim 6, wherein the heat treatment is performed in the presence of a second solvent for polyethylene.
8. Method according to any one claims 5-7, further comprising a step of incorporating a medical drug into the yarns by adding the drug to the first or the second solvent.
9. Method according to any one of claims 5-8, further comprising a step of heating the mesh under constant strain at a temperature between the melting temperature of the polyethylene and a temperature not more than 20 degrees below the melting temperature.